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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/782,939	02/23/2004	Erik J. Shahoian	IMMR-0052B	7661

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IMMERSION -THELEN REID BROWN RAYSMAN & STEINER LLP  
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SAN JOSE, CA 95164-0640

EXAMINER
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LIANG, REGINA

ART UNIT	PAPER NUMBER
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2629

MAIL DATE	DELIVERY MODE
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10/02/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/782,939

Applicant(s)

SHAHOIAN ET AL.

Examiner

Regina Liang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3-9,12-20,22,23,26-33 and 37-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-9,12-20,22,23,26-33 and 37-39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>9/10/07</u> . | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. This Office action is responsive to amendment filed 8/14/07. Claims 1, 3-9, 12-20, 22, 23, 26-33, 37-39 are pending in the application.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

### *Double Patenting*

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 1, 3-9, 12-20, 22, 23, 26-33, 37-39 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-50 of U.S. Patent No. 6,184,868. Although the conflicting claims are not identical, they are not patentably distinct

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from each other because they both are claiming the actuator being configured to output a haptic feedback to the moveable portion of the housing.

Two representative claims from the US Patent No. 6,184,868 and the instant application are compared in the following:

Claim 17 of the US Patent No. 6,184,868	Claim 1 of the instant application
17. A haptic feedback control device for inputting control signals to a computer and for outputting forces to a user of the control device, the control device comprising:	1. A device, comprising
a housing including a fixed portion and a moveable portion, wherein said user engages both said fixed portion and said moveable portion of said housing when using said device;	a housing having a fixed portion and a moveable portion, wherein the fixed portion is adapted to be engaged to an arm of a linkage mechanism about a pivot point such that the fixed and moveable portions together rotate about the pivot point, the moveable portion configured to move laterally with respect to the fixed portion;
a coupling coupled between said moveable portion and said fixed portion and allowing said moveable portion to move relative to said fixed portion in a direction parallel to an outer surface of said moveable portion, said portion of said outer surface being contacted by said user when said housing is grasped by said user; and	a flexure member coupled to the moveable portion and the fixed portion, wherein the flexure member is configured to allow selective movement of the moveable portion with respect to the fixed portion; and
an actuator coupled to said coupling, said actuator outputting a force on said coupling to cause said moveable portion to move with respect to said fixed portion.	an actuator coupled to the flexure member, the actuator configured to output haptic feedback to the moveable portion of the housing via the flexure member.

From the side-by-side comparison above, it is noted that claim 1 is broadening from claim 17 of the US Patent No. 6,184,868. As can be seen above, patented claim 17 differs from claim 1 of this application in not having the fixed portion is adapted to be engaged to an arm of a linkage mechanism about a pivot point. However, the patent claims are in comprising format and therefore covers structure not specifically recited. The patent disclosure clearly describes a fixed portion is engaged to an arm of a linkage mechanism and is encompassed by the patent claims comprising format.

In view of the above analysis, applicant's claim 1 and patented claim 17 are not patentably distinct from one another and in the absence of a terminal disclaimer would result in an unjustifiable time wise extension of applicant patent. The above analysis also applies to the rest of the claims. As can be seen from the above, the claimed subject matter of the present application is compared with the claimed subject matter of the patented claim and that they are not patentably distinct from each other.

### ***Claim Rejections - 35 USC § 103***

5. Claims 1, 3-9, 12-20, 22, 23, 26-33, 37-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Menahem (US 5,142,931) in view of Salcudean et al. (US Patent No. 5,790,108).

As to claims 1, 30, Menahem discloses a control device (Figs. 1 and 2), comprising: a housing (the housing of grip 10) having a fixed portion (grip 10) and a moveable portion (the buttons on the grip 10), wherein the fixed portion (grip 10) is adapted to be engaged to an arm of

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a linkage mechanism about a pivot point such that the fixed and moveable portions together rotate about the pivot point (see Fig. 2, the shaft 42 corresponds to arm of a linkage mechanism, the gimble mechanism 40 is a pivot point such that the grip 10 and the buttons together rotate about the pivot point), the moveable portion configured to move laterally with respect to the fixed portion (inherent that the buttons are moving up or down with respect to the grip 10).

Menahem does not disclose the device having a flexure member coupled to the moveable portion and the fixed portion and an actuator coupled to the flexure member and configured to output haptic feedback to the moveable portion of the housing via the flexure member. Salcudean is cited to teach a controller having a flexure member (Fig. 7, springs 128, 130) coupled to the moveable portion (the tactile element 22 could be a z button, see col. 7, lines 51-59) and the fixed portion (handle 18), wherein the flexure member is configured to allow selective movement of the moveable portion with respect to the fixed portion (see Fig. 7); and an actuator (E-core magnet 122 with a coil 124) coupled to the flexure member (springs 128, 130), the actuator configured to output haptic feedback to the moveable portion of the housing via the flexure member (see col. 7, lines 25-41 for example). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Menahem to have a flexure member coupled between the buttons and the fixed portion and an actuator coupled to the flexure member as taught by Salcudean so as to provide a control with permits the effective application of force feedback to impede or direct movement of the controller in three directions (col. 1, lines 52-55 of Salcudean).

As to claim 3, Menahem discloses the haptic feedback is output based on an oscillation of a shaft of the actuator (col. 5, lines 29-36).

As to claim 4, Fig. 7 of Salcudean discloses the flexure member (128, 130) includes a first flexure member (128) and a second flexure member (130), the first flexure member and the second flexure member being coupled between the moveable portion and the fixed portion, the actuator being configured to output the haptic feedback via at least one of the flexure members (see col. 7, lines 25-41 for example).

As to claim 5, Menahem discloses a manipulandum (the top portion of hand grip 10 as shown in Fig. 1) disposed adjacent to the moveable portion, the haptic feedback being imparted to the manipulandum.

As to claim 6, Menahem discloses a manipulandum (the top portion of hand grip 10 as shown in Fig. 1) disposed adjacent to the moveable portion, the haptic feedback being imparted to the manipulandum, the manipulandum is fixed in position with reference to the moveable portion.

As to claims 7, 8, Menahem discloses a button (on top of hand grip 10 as shown in Fig. 1) disposed adjacent to the moveable portion, the haptic feedback being imparted to the button (the haptic feedback is imparted to the hand grip 10 which includes the button).

As to claim 9, Salcudean discloses a sensor (see col. 7, lines 55-58) coupled to the housing, the sensor being configured to detect a movement of the moveable portion with respect to the fixed portion.

As to claim 12, Menahem discloses the device having a housing adapted to be engaged to an arm of a linkage mechanism about a single pivot point (note the discussion of claim 1 above) and a button disposed on the housing. Salcudean discloses a button having a sensor (col. 7, lines 55-58).

As to claim 13, Salcudean discloses the actuator (124, Fig. 7) is a voice coil.

As to claim 14, Salcudean discloses the actuator (124) includes a coil coupled to the button and a magnet coupled to a housing in which the button is disposed (see Fig. 7).

As to claim 15, Salcudean discloses the actuator (124) includes a magnet coupled to the button and a coil coupled to a housing in which the button is disposed (see Fig. 7).

As to claim 16, Salcudean discloses the sensor is an analog sensor configured to output a position signal, the position signal associated with a position of the button (see col. 7, lines 51-58).

As to claim 17, Salcudean discloses haptic feedback includes a vibratory force produced as a function of time (e.g. damping force).

As to claim 18, Salcudean discloses haptic feedback includes a spring force (128, 130, Fig. 7) produced as a function of the displacement of the button.

As to claim 19, Salcudean discloses the haptic feedback includes a damping force produced as a function of a velocity of the button because the button is connected to the spring.

As to claim 20, Salcudean discloses a flexure member (128, 130) coupled to the button and a housing in which the button is disposed.

As to claim 22, it is noted that Salcudean the force input device can be a mouse and a joystick but fails to mention a trackball. However, trackball is a well-known input device in the art. It would have been obvious to one of ordinary skill in the art to have applied the actuator of Salcudean for any kind of the cursor input device such as the trackball because the actuator can be fitted into different handheld input device.



As to claim 23, Salcudean discloses a housing, the button disposed in the housing; and a joystick coupled to the housing, the joystick configured to control a position of a graphical object (see Figs. 8 and 12).

As to claim 26, Salcudean discloses the actuator being a first actuator (70, Fig. 1), the device further comprising a second actuator (72, Fig. 1) configured to output a vibration.

As to claim 27, Salcudean discloses isometric controller (e.g. mouse or joystick) configured to control a position of a cursor in a graphical display (see Fig. 12).

As to claim 28, Fig. 1 of Menahem discloses the fixed portion (10) and the moveable portion (button) are configured to engaged by one hand of a user.

As to claims 29, 32, Menahem disclose the input device having sensor (bearings 48, 50, 62, 64) for sensing the movement of the housing in x, y and z axis (six degrees of freedom) with respect to ground (fixed portion such as a base).

As to claim 31, Figs. 7, 8 of Salcudean discloses a button (22, 132) is integral to a housing (18, 137) having affixed portion (18, 137) and a moveable portion (22, 132), the fixed portion and the moveable portion configured to be engaged by one hand of a user.

As to claim 33, Figs. 1 and 2 of Menahem teaches the housing is coupled to a linkage mechanism (shaft 42) coupled to ground (base 12).

As to claims 38, 39, Fig. 1 and 2 of Menahem shows the fixed portion (grip 10) is coupled to the linkage mechanism (shaft 42), wherein the fixed portions (grip 10) is at least rotatable with respect to the linkage mechanism.

As to claim 37, note the discussion of claim 1 above. Furthermore, Menahem teaches a first sensor (bearings 48, 50, 62, 64) coupled to the fixed portion (grip 10) and configured to

provide sensor data regarding movement of the fixed portion of the housing with respect to group, and Salcudean teaches a second sensor (col. 7, lines 49-58) coupled to the moveable portion (button) and configured to provide sensor data regarding the movement of the button with respect to the fixed portion of the housing.

***Response to Arguments***

6. Applicant's arguments with respect to claims 1, 3-9, 12-20, 22, 23, 26-33, 37-39 have been considered but are moot in view of the new ground(s) of rejection.

In the IDS filed 10/2/06, the examiner has indicated on same pages of IDS that the "references had been considered" since the references listed on these pages are the duplicate copy of the references filed on 2/23/04, and these references had been considered, see the initial copy of the PTO-1449 mailed on 6/28/06. Thus, these references are crossed out in the IDS filed 10/2/06.

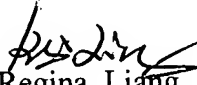
The terminal disclaimer filed on 8/14/07 has been reviewed and is NOT accepted. The Patent being disclaimed has been improperly identified since the number used to identify the patent (6,697,043) being disclaimed is incorrect. The correct number is 6,184,868.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Regina Liang whose telephone number is (571) 272-7693. The examiner can normally be reached on Monday-Friday from 8AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Hjerpe, can be reached on (571) 272-7691. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Regina Liang  
Primary Examiner  
Art Unit 2674

9/27/07